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NOTICE OF ALLOWANCE AND FEE(S) DUE

TECHNOLOGY CENTER 2800  
24131 7590 01/04/2005

LERNER AND GREENBERG, PA  
P O BOX 2480  
HOLLYWOOD, FL 33022-2480

EXAMINER

ABRAHAM, FETSUM

ART UNIT

PAPER NUMBER

2826

DATE MAILED: 01/04/2005

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,664	11/13/2003	Judith Maget	P2001,0373	2603

TITLE OF INVENTION: INTEGRATED, TUNABLE CAPACITANCE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$1700	04/04/2005

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHT. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPO PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THE STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee Transmittal and pay the PUBLICATION FEE (if required) and 1 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issued on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is the patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

Complete and send this form, together with applicable fee(s), to: Mail

**Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
**P.O. Box 1450**  
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**or Fax (703) 746-4000**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

24131 7590 01/04/2005

**LERNER AND GREENBERG, PA**  
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**HOLLYWOOD, FL 33022-2480**

Note: A certificate of mailing can only be used for domestic mailings of Fee(s) Transmittal. This certificate cannot be used for any other accompany papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (703) 746-4000, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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nonprovisional	NO	\$1400	\$300	\$1700	04/04/2005

EXAMINER	ART UNIT	CLASS-SUBCLASS
ABRAHAM, FETSUM	2826	361-271000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, \_\_\_\_\_ 1
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. \_\_\_\_\_ 2
- \_\_\_\_\_ 3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s):

- ☐ A check in the amount of the fee(s) is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), or credit any overpayment Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above. NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other part interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 14 Alexandria, Virginia 22313-1450.

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10/712,664	11/13/2003	Judith Maget	P2001,0373	2603
24131	7590	01/04/2005	EXAMINER	
LERNER AND GREENBERG, PA P O BOX 2480 HOLLYWOOD, FL 33022-2480			ABRAHAM, FETSUM	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 01/04/2005

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office Patent Legal Administration at (571) 272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

# Notic of Allowability

Application No.

10/712,664

Examiner

Fetsum Abraham

Applicant(s)

MAGET, JUDITH

Art Unit

2826

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address—

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to THE RESPONSE RECEIVED ON 11/12/04.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ The drawings filed on 13 November 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

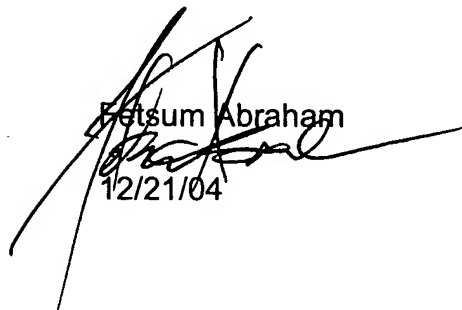
**Statement of reasons for allowance**

**Claims 1-9 have been allowed.**

The claimed tunable capacitor having an interface between first and second insulation layers and the insulators having a common interface with said semiconducting body structured as a well and having a well terminal region for voltage application and the thickness comparison between said first insulation layer and said well termination region is neither taught nor rendered obvious by the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fetsum Abraham whose telephone number is: 571-272-1911. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J Flynn can be reached on 571-272-1915.

  
Fetsum Abraham  
12/21/04

<b>FORM PTO-1449 (SUBSTITUTE)</b>  U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  <b>INFORMATION DISCLOSURE          STATEMENT BY APPLICANT</b> (37 CFR 1.98(b))				Attorney Docket No.: P2001,0373 Appl. No.:  Applicant: JUDITH MAGET  Filing Date: November 13, 2003 Group Art Unit:			
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EXAMINER INITIALS	PATENT NO.	DATE	PATENTEE	CLASS	SUB CLASS	FILING DATE
	A	6,172,378 B1	1/9/01	Hull et al.		
	B	5,965,912	10/12/99	Stolfa et al.		
	C	6,034,388	3/7/00	Brown et al.		
	D					
	E					
	F					
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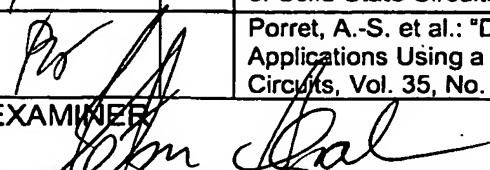
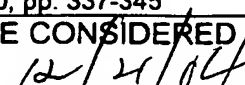
FOREIGN PATENT DOCUMENT							
DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB CLASS	TRANSL. YES   NO		
J	03147376 A	6/24/91	Japan				
K	0 800 218	10/8/97	Europe				
L							
M							
N							

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)	
	Hung, C.-M. et al.: "A 25.9-GHz Voltage-Controlled Oscillator Fabricated in a CMOS Process", Symposium on VLSI Circuits Digest of Technical Papers, IEEE, 2000, pp. 100-101
	Maget, J. et al.: "A Varactor with High Capacitance Tuning Range in Standard 0.25 μm CMOS Technology", 4 pages
EXAMINER:	DATE CONSIDERED: 12/21/04
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

<b>FORM PTO-1449 (SUBSTITUTE)</b>  U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  <b>INFORMATION DISCLOSURE          STATEMENT BY APPLICANT</b> (37 CFR 1.98(b))				Attorney Docket No.: P2001,0373 Appl. No.: _____  Applicant: JUDITH MAGET Filing Date: November 13, 2003 Group Art Unit: _____			
EXAMINER INITIALS		PATENT NO.	DATE	PATENTEE	CLASS	SUB CLASS	FILING DATE
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<b>FOREIGN PATENT DOCUMENT</b>							
		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB CLASS	TRANSL. YES   NO
	J						
	K						
	L						
	M						
	N						
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)</b>							
		Burghartz, J. N. et al.: "Integrated RF and Microwave Components in BiCMOS Technology", IEEE Transactions on Electron Devices, Vol. 43, No. 9, September 1996, pp. 1559-1570					
		Wong, W. M. Y. et al.: "A Wide Tuning Range Gated Varactor", IEEE Journal of Solid-State Circuits, Vol. 35, No. 5, May 2000, pp. 773-779					
		EXAMINER		DATE CONSIDERED			
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EXAMINER INITIALS		PATENT NO.	DATE	PATENTEE	CLASS	SUB CLASS	FILING DATE
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		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB CLASS	TRANSL. YES   NO
	J						
	K						
	L						
	M						
	N						
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)</b>							
		Svelto, F. et al.: "A Three Terminal Varactor for RF IC's in Standard CMOS Technology", IEEE Transactions on Electron Devices, Vol. 47, No. 4, April 2000, pp. 893-895					
		Tiebout, M.: "A Fully Integrated 1.3GHz VCO for GSM in 0.25µm Standard CMOS with a Phasenoise of -142dBc/Hz at 3MHz Offset", European Microwave Week, 2000, 4 pages					
EXAMINER:				DATE CONSIDERED: 12/21/04			
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

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		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB CLASS	TRANSL. YES   NO
	J						
	K						
	L						
	M						
	N						
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)							
211		Andreani, P. et al.: "On the Use of MOS Varactors in RF VCO's", IEEE Journal of Solid-State Circuits, Vol. 35, No. 6, June 2000, pp. 905-910					
Pro		Porret, A.-S. et al.: "Design of High-Q Varactors for Low-Power Wireless Applications Using a Standard CMOS Process", IEEE Journal of Solid-State Circuits, Vol. 35, No. 3, March 2000, pp. 337-345					
EXAMINER				DATE CONSIDERED			
							
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

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